

Pflügers Archiv
European Journal
of Physiology

Vol. 434 1997

Field Editors

D.G. Allen, Sydney
C.A.R. Boyd, Oxford
G. ten Bruggencate, München
R. Busse, Frankfurt/Main
E.E. Carmeliet, Leuven
R. Casteels, Leuven
P. Cerretelli, Geneva
W. Clauss, Giessen
A. Doucet, Paris
P. Gaehtgens, Berlin
D.V. Gallacher, Liverpool
H. Garty, Rehovot
R. Greger, Freiburg
J. Heller, Prag
U. Hopfer, Cleveland, OH
M. Imai, Tochigi
F. Lacquaniti, Roma
J. Molgó, Gif-sur-Yvette
H. Murer, Zürich
E. Neher, Göttingen
G. Nicolaysen, Oslo

B. Nilius, Leuven
A.E.G. Persson, Lund
D.W. Richter, Göttingen
J.L. Samuel, Paris
E. Simon, Bad Nauheim
B. Soria, Alicante
P. Stanfield, Leicester
G. van der Vusse, Maastricht
W. van Driessche, Leuven
J.D. Vincent, Gif-sur-Yvette
G. Wallin, Göteborg
R. Weingart, Bern
J.A. Young, Sydney

Subject Editors

R.S. Reneman, Maastricht
P. Deetjen, Innsbruck
M. Jeannerod, Lyon
O.H. Petersen, Liverpool

Coordinating Editor

K. Thurau, München



Springer

Pflügers Archiv · European Journal of Physiology

Founded in 1868 as „Pflügers Archiv für die gesamte Physiologie des Menschen und der Tiere“ by E.F.W. Pflüger. Edited by M. Verworn, E. Abderhalden, A. Bethe, R. Höber, A. v. Muralto, H. Rein et al.

Published: Vol. 1–29 (1876) Cohen und Sohn, Bonn; Vol. 30–92 (1901) E. Strauß, Bonn; Vol. 93–170 (1917) M. Hager, Bonn; since Vol. 171 (1918) Springer, Berlin.

Since 1920 Pflügers Archiv has included: „Archiv für Physiologie“ (Archiv für Anatomie und Physiologie, Physiologische Abteilung). Founded and edited by Johannes Müller, E. du Bois-Reymond, W. v. Waldeyer-Hartz et al. 1877–1914. Veit und Co., Leipzig, since 1915, Vereinigung Wissenschaftlicher Verleger, afterwards Walter de Gruyter, Berlin.

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA

Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0031-6768, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Other regulations

Authors publishing in this journal can, under certain conditions, benefit from library and photocopy fees collected by VG WORT. Authors of German nationality and those resident in Germany, as well as citizens of Austria, Switzerland and member countries of the European Community, may apply to Verwertungsgesellschaft WORT, Abteilung Wissenschaft, Goethestrasse 49, D-80336 München, Germany, for detailed information.

Springer-Verlag Berlin Heidelberg New York

Printers: Universitätsdruckerei H. Stürtz AG Würzburg, Germany

© Springer-Verlag GmbH & Co. KG, Berlin Heidelberg 1997

Printed in Germany

Contents of volume 434

- No 1** (pp 1–150) published 1 May 1997
No 2 (pp 151–214) published 2 June 1997
No 3 (pp 215–340) published 1 July 1997
No 4 (pp 341–508) published 1 August 1997
No 5 (pp 509–646) published 1 September 1997
No 6 (pp 647–864) published 1 October 1997

This volume contains:

Abstracts of the XXIII Riunione Primaveraile of the Società Italiana di Fisiologia (Spring Meeting), 12–14 June 1996, Firenze, Italy, **R1–R38**

Abstracts of the Nederlandse Vereniging voor Fysiologie, Young Physiologist Day, 21 March 1997 Utrecht, The Netherlands, **R39–R46**

Società Italiana di Fisiologia, Abstracts of the XXIV Riunione Primaveraile (Spring Meeting), 25–27 March 1997, Firenze, Italy, **R47–R72**

Abstracts of the International Potassium Channel Conference, 16–19 July 1997, Ulm, Germany, S. Grissmer, Department of Applied Physiology, University Ulm, Germany; Supplement to Volume 434, No.5 (1997), **R73–R114**

Ahn S, Kim SJ, So I, Kim KW: Inhibitory effect of phorbol 12, 13 dibutyrate on carbachol-activated nonselective cationic current in guinea-pig gastric myocytes 505

Albrecht K, Schneider A, Liebetrau C, Rüegg JC, Pfitzer G: Exogenous caldesmon promotes relaxation of guinea-pig skinned taenia coli smooth muscles: inhibition of co-operative reattachment of latch bridges? 534

Ando Y → Ono S
 Araque A → Castellote J
 Asano Y → Ono S
 Ashmore JF → Gale JE
 Aslan T → Roth J
 Aymard P → Blais A

Bae YM → Park MK
 Bali J-P → Rodier G
 Baltazar G, Ladeira I, Carvalho AP, Duarte EP: Two types of ω -agatoxin IVA-sensitive Ca^{2+} channels are coupled to adrenaline and noradrenaline release in bovine adrenal chromaffin cells 592

Barg S → Gromada J
 Bataille D → Rodier G
 Bauer CK → Weinsberg F
 Bækgaard Nielsen O → Overgaard K
 Beck FX → Schober A
 Beck F-X → Ohno A
 Bedford TG → Chong RKY
 Beek JHGM van → Bussemaker J
 Bennekou P → Jørgensen AJ
 Benning N → Nitschke R
 Benzinger GR, Drum CL, Chen L-Q, Kallen RG, Hanck DA: Differences in the binding sites of two site-3 sodium channel toxins 742

Berg RJ van den → Raes A
 Bertog M → Gitter AH
 Betto R → Midrio M
 Bischoff A, Stickan-Verfürth M, Michel MC:

Renovascular and tubular effects of neuropeptide Y are discriminated by PP56 (D-myo-inositol 1,2,6-triphosphate) in anaesthetized rats 57

Bismarck P von → Wit C de
 Blais A, Aymard P, Lacour B: Paracellular calcium transport across Caco-2 and HT29 cell monolayers 300
 Blank U, Rückes C, Clauss W, Hofmann T, Lindemann H, Munker G, Weber W-M: Cystic fibrosis and non-cystic-fibrosis human nasal epithelium show analogous Na^+ absorption and reversible block by phenamil 19

Blank U, Rückes C, Clauss W, Weber W-M: Effects of nicotine on human nasal epithelium: evidence for nicotinic receptors in non-excitable cells 581
 Bleich M, Briel M, Busch AE, Lang HJ, Gerlach U, Gögelein H, Greger R, Kunzelmann K: K_v LQT channels are inhibited by the K^+ channel blocker 293B 499

Bleich M → Fraser GM
 Bleich M → Willmann JK
 Blumberg FC → Pfeifer M
 Bogaert PP van → Raes A
 Bolz S-S → Wit C de
 Braun G → Horster M
 Brenner HR → Britt JC
 Briel M → Bleich M
 Briggs FN → Hu P
 Britt JC, Brenner HR: Rapid drug application resolves two types of nicotinic receptors on rat sympathetic ganglion cells 38

Bruandet N → Rentero N
 Buño W → Castellote J
 Burckhardt BC, burckhardt G: NH_4^+ conductance in *Xenopus laevis* oocytes. I. Basic observations 306

Burckhardt G → Burckhardt BC
 Burckhardt G → Sabolic I
 Busch AE → Bleich M

Buschman HPJ, Laarse WJ van der, Stienen GJM, Elzinga G: Force and myosin content variation in isolated intact single muscle fibres from *Rana temporaria* 332
 Bussemaker J, Groeneveld ABJ, Teerlink T, Hennekes M, Westerhof N, Beek JHGM van: Low- and high-blood flow regions in the normal pig heart are equally vulnerable to ischaemia during partial coronary stenosis 785

Caceres E → Favier R
 Camello PJ → Gonzalez A
 Cao Y, Motomura K, Ohtsuru A, Matsumoto T, Yamashita S, Kosaka M: Profilin gene expression and regulation in a temperature sensitive breast cancer cell line: tsFT101 341

Carvalho AP → Baltazar G
 Casavola V → Helmle-Kolb C
 Castañeda J → Tamayo L
 Castellote J, Araque A, Buño W: Sustained GABA-induced regulation of the L-type Ca^{2+} conductance in crustacean muscle fibers 272

Cavagna GA, Mantovani M, Willems PA, Musch G: The resonant step frequency in human running 678

Chae SW → Kim SH
 Champlain J de → Godin-Ribuot D
 Chang SH → Kim SH
 Chen L-Q → Benzinger GR
 Chen Y, Herness MS: Electrophysiological actions of quinine on voltage-dependent currents in dissociated rat taste cells 215
 Cho KW → Kim SH
 Chong RKY, Bedford TG: Heart rate, blood pressure, and running speed responses to mesencephalic locomotor region stimulation in anesthetized rats 280

Christensen NJ → Nielsen B
 Cifuentes F → Escobar AL
 Clausen T → Overgaard K
 Clauss W → Blank U
 Cohen IS → Wu J-Y
 Colledge WH → King N
 Colyer J → Hulme JT
 Conley KE → Jubrias SA
 Conte Camerino D → Tricarico D
 Coppola S → Müller-Berger S
 Cottrell GA → Green KA
 Couture R → Godin-Ribuot D
 Criado JM, Fuente A de la, Heredia M, Riobolobos AS, Yajeya J: Electrophysiological study of prefrontal neurones of cats during a motor task 91
 Custer M → Spindler B

Dallos G → Komjádi K
 Danieli-Betto D → Midrio M
 Danker T → Lärmer J
 Danker T → Schwab A
 De Smet P, Erlij D, Van Driessche W: Insulin effects on ouabain binding in A6 renal cells 11

Demenge P → Godin-Ribuot D
 Derno M → Löhrlke B
 Desfleurs E → Wittner M
 Di Sole F → Helmle-Kolb C
 Di Stefano A → Wittner M

- Díaz ME, Trafford AW, O'Neill SC, Eisner DA: A measurable reduction of s.r. Ca content follows spontaneous Ca release in rat ventricular myocytes 852
- Díaz-Laviada I → Nieto JL
- Ding W-G → Gromada J
- Dittrich G → Horster M
- Donowitz M → Helmle-Kolb C
- Döring H → Stehling O
- Dörner M → Lewin R
- Droogmans G → Trouet D
- Drum CL → Benzinger GR
- Duarte EP → Baltazar G
- Dubois J-M → Rouzaire-Dubois B
- Earm YE → Park MK
- Ecke D → Fraser GM
- Edvinsson L → Torffvit O
- Eggermont J → Trouet D
- Eisner DA → Díaz ME
- Elliott AA, Elliott JR: Channel-specific effects of *n*-alkyl sulphate anions on three *Shaker*-related potassium channels expressed in *Xenopus* oocytes 132
- Elliott AA → Gómez-Hernandez JM
- Elliott JR → Elliott AA
- Elsner D → Pfeifer M
- Elzinga G → Buschman HPJ
- Erlij D → De Smet P
- Escobar AL, Velez P, Kim AM, Cifuentes F, Fill M, Vergara JL: Kinetic properties of DM-nitrophen and calcium indicators: rapid transient response to flash photolysis 615
- Eskenes K → Jørgensen AJ
- Esselman PC → Jubrias SA
- Evans MJ → King N
- Favier R, Spielvogel H, Caceres E, Rodriguez A, Sempore B, Pequignot J, Pequignot JM: Differential effects of ventilatory stimulation by sex hormones and almitrine on hypoxic erythrocytosis 97
- Fill M → Escobar AL
- Finsterwalder F → Schwab A
- Fischer K-G → Nitschke R
- Forgo J → Helmle-Kolb C
- Fraek M-L → Ohno A
- Fraser GM, Portnoy M, Bleich M, Ecke D, Niv Y, Greger R, Schwartz B: Characterization of sodium and chloride conductances in preneoplastic and neoplastic murine colonocytes 801
- Frederiksen O → Unmack MA
- Fromm M → Gitter AH
- Frömter E → Müller-Berger S
- Fuente A de la → Criado JM
- Fujikawa S, Motomura H, Ito Y, Ogata N: GABA_B-mediated upregulation of the high-voltage-activated Ca²⁺ channels in rat dorsal root ganglia 84
- Gale JE, Ashmore JF: The outer hair cell motor in membrane patches 267
- Galler S, Hilber K, Göbesberger A: Effects of nitric oxide on force-generating proteins of skeletal muscle 242
- Galler S → Hilber K
- Galve-Roperh I → Nieto JL
- Gekle M → Kuramochi G
- Genet S, Kado RT: Hyperpolarizing current of the Na/K ATPase contributes to the membrane polarization of the Purkinje cell in rat cerebellum 559
- Geng W → Wang S
- Gerlach U → Bleich M
- Gess B, Wolf K, Pfeifer M, Riegger GAJ, Kurtz A: In vivo carbon monoxide exposure and hypoxic hypoxia stimulate immediate early gene expression 568
- Giaume C → Hamon B
- Giaume C → Venance L
- Gibson JS → Speake PF
- Gitter AH, Bertog M, Schulze J-D, Fromm M: Measurement of paracellular epithelial conductivity by conductance scanning 830
- Glowinski J → Hamon B
- Göbesberger A → Galler S
- Godin-Ribuot D, Ribaut C, Lamontagne D, Yamaguchi N, Couture R, Champlain J de, Demenge P, Nadeau R: Reflex adrenal medullary secretion during coronary occlusion mediated by cardiac receptors with afferent vagal fibres in the rat 159
- Goethals M → Raes A
- Gögelein H → Bleich M
- Gómez-Hernandez JM, Lorra C, Pardo LA, Stühmer W, Pongs O, Heinemann SH, Elliott AA: Molecular basis for different pore properties of potassium channels from the rat brain Kv1 gene family 661
- Gonzalez A, Pariente JA, Salido GM, Camello PJ: Intracellular pH and calcium signalling in rat pancreatic acinar cells 609
- González C → Tamayo L
- Green KA, Cottrell GA: Modulation of ligand-gated dopamine channels in *Helix* neurones 313
- Greger R → Bleich M
- Greger R → Fraser GM
- Greger R → Hug MJ
- Greger R → Leipziger J
- Greger R → Nitschke R
- Greger R → Schreiber R
- Greger R → Willmann JK
- Greger R → Zdebik A
- Groeneveld ABJ → Bussemaker J
- Gromada J, Ding W-G, Barg S, Renström E, Rorsman P: Multisite regulation of insulin secretion by cAMP-increasing agonists: evidence that glucagon-like peptide 1 and glucagon act via distinct receptors 515
- Grunewald RW, Oppermann M, Müller GA: Choline transport and its osmotic regulation in renal cells derived from the rabbit outer medullary thick ascending limb of Henle 815
- Guo W, Kamiya K, Toyama J: Roles of the voltage-gated K⁺ channel subunits, Kv 1.5 and Kv 1.4, in the developmental changes of K⁺ currents in cultured neonatal rat ventricular cells 206
- Hamon B, Glowinski J, Giaume C: Nicotine inhibits slowly inactivating K⁺ currents in rat cultured striatal neurons 642
- Hanck DA → Benzinger GR
- Hancox JC → Mitcheson JS
- Haro A → Nieto JL
- Heinemann SH → Gómez-Hernandez JM
- Heller J → Vančáková I
- Helmle-Kolb C, Di Sole F, Forgo J, Hilfiker H, Tse CM, Casavola V, Donowitz M, Murer H: Regulation of the transfected Na⁺/H⁺-exchanger NHE3 in MDCK cells by vasotocin 123
- Hennekes M → Bussemaker J
- Herak-Kramberger CM → Sabolic I
- Heredia M → Criado JM
- Herness MS → Chen Y
- Hervé J-C → Verrecchia F
- Hilber K, Galler S: Mechanical properties and myosin heavy chain isoform composition of skinned skeletal muscle fibres from a human biopsy sample 551
- Hilber K → Galler S
- Hilfiker H → Helmle-Kolb C
- Ho W-K → Park MK
- Hoadley ME → Roth J
- Hofmann T → Blank U
- Holmer S → Schricker K
- Holmer SR → Pfeifer M
- Honda H → Janssen PML
- Hopkins SJ → Roth J
- Horster M, Huber S, Tschöp J, Dittrich G, Braun G: Epithelial nephrogenesis 647
- Hu P, Zhang K-M, Wright LD, Spratt JA, Briggs FN: Correlations between MyoD, myogenin, SERCA1, SERCA2 and phospholamban transcripts during transformation of type-II to type-I skeletal muscle fibres 209
- Huber S → Horster M
- Hug MJ, Thiele IE, Greger R: The role of exocytosis in the activation of the chloride conductance in Chinese hamster ovary cells (CHO) stably expressing CFTR 779
- Hug MJ → Zdebik A
- Hulme JT, Colyer J, Orchard CH: Acidosis alters the phosphorylation of Ser¹⁶ and Thr¹⁷ of phospholamban in rat cardiac muscle 475
- Hunter M → Löffler K
- H-Velkei M → Komjáti K
- Imai M → Koseki C
- Imanaga I → Uehara A
- Ito K → Miura M
- Ito KM → Miura M
- Ito S → Kitamura N
- Ito Y, Niisato N, O'Brodivich H, Marunaka Y: The effect of brefeldin A on terbutaline-induced sodium absorption in fetal rat distal lung epithelium 492
- Ito Y → Fujikawa S
- Ivorra I, Morales A: Membrane currents in immature oocytes of the *Rana perezi* frog 413
- Iwamoto T → Uehara A
- Iwanaga T → Miura M
- Janssen PML, Schiereck P, Honda H, Naya T, Koiwa Y: The effect of applied mechanical vibration on two different phases of rat papillary muscle relaxation 795
- Jarrousse C → Rodier G
- Jentsch W → Löhre B
- Jørgensen AJ, Bennekou P, Eskenes K, Kristensen BI: Annexins from Ehrlich ascites cells inhibit the calcium-activated

- chloride current in *Xenopus laevis* oocytes 261
- Jubrias SA, Odderson IR, Esselman PC, Conley KE: Decline in isokinetic force with age: muscle cross-sectional area and specific force 246
- Kado RT → Genet S
- Kallen RG → Benzinger GR
- Kamiya K → Guo W
- Kang TM → Kim YC
- Kasparov S, Paton JFR: Changes in baroreceptor vagal reflex performance in the developing rat 438
- Katsube Y → Yokoshiki H
- Kerstan D → Leipziger J
- Kersting U → Schwab A
- Kim AM → Escobar AL
- Kim KW → Ahn S
- Kim KW → Kim YC
- Kim KW → Xu WX
- Kim SH, Cho KW, Chang SH, Kim SZ, Chae SW: Glibenclamide suppresses stretch-activated ANP secretion: involvements of K^+ _{ATP} channels and L-type Ca^{2+} channel modulation 362
- Kim SJ → Ahn S
- Kim SJ → Kim YC
- Kim SJ → Xu WX
- Kim SZ → Kim SH
- Kim YC, Kim SJ, Kang TM, Suh SH, So I, Kim KW: Effects of myosin light chain kinase inhibitors on carbachol-activated non-selective cationic current in guinea-pig gastric myocytes 346
- King N, Colledge WH, Ratcliff R, Evans MJ, Simmons NL: The intrinsic Cl^- conductance of mouse kidney cortex brush-border membrane vesicles is not related to CFTR 575
- Kitamura N, Ohta T, Ito S, Nakazato Y: Calcium channel subtypes in porcine adrenal chromaffin cells 179
- Koishi Y → Janssen PML
- Kolb FP, Süß K, Timmann D: A reliable method for sustaining a pre-defined pre-innervation level 137
- Komjáti K, Dallos G, H-Velkei M, Sándor P: Central opiate receptor blockade by naloxone impairs thalamic and hypothalamic autoregulation in the cat 144
- Kosaka M → Cao Y
- Koseki C, Imai M: Proton secretion in the upper part of the descending limb of long-looped nephron from hamsters 721
- Krämer BK → Schricker K
- Kreft M, Zorec R: Cell-attached measurements of attofarad capacitance steps in rat melanotrophs 212
- Kristensen BI → Jørgensen AJ
- Krüger B → Löhre B
- Kunzelmann K → Bleich M
- Kunzelmann K → Schreiber R
- Kuramochi G, Gekle M, Silbernagl S: Ochratoxin A disturbs pH homeostasis in the kidney: increases in pH and HCO^- in the tubules and vasa recta 392
- Kurtz A → Gess B
- Kurtz A → Pfeifer M
- Kurtz A → Schricker K
- Kusano E → Ono S
- Laarse WJ van der → Buschman HPJ
- Lacour B → Blais A
- Ladeira I → Baltazar G
- Lamontagne D → Godin-Ribuot D
- Lang HJ → Bleich M
- Lärmer J, Schneider SW, Danker T, Schwab A, Oberleithner H: Imaging excised apical plasma membrane patches of MDCK cells in physiological conditions with atomic force microscopy 254
- Le Nguyen D → Rodier G
- Lee SC, Pappone PA: Membrane responses to extracellular ATP in rat isolated white adipocytes 422
- Lee SH → Park MK
- Leipziger J, Kerstan D, Nitschke R, Greger R: ATP increases $[Ca^{2+}]_i$ and ion secretion via a basolateral $P2Y$ -receptor in rat distal colonic mucosa 77
- Leipziger J → Nitschke R
- Lewin R, Dörner M, Tönhardt H: Pulse oximetry: a new way of determining the heart rate in chicken embryos 639
- Li X-Y, McArdle JJ: Novel transient outward K^+ current of mature murine hippocampal neurones 195
- Liebetrau C → Albrecht K
- Lindemann H → Blank U
- Liss P, Nygren A, Revsbech NP, Ulfendahl HR: Intrarenal oxygen tension measured by a modified Clark electrode at normal and low blood pressure and after injection of x-ray contrast media 705
- Löffler K, Hunter M: Cation permeation and blockade of ROMK1, a cloned renal potassium channel 151
- Löhre B, Derno M, Krüger B, Viergutz T, Matthes H-D, Jentsch W: Expression of sulphonylurea receptors in bovine monocytes from animals with a different metabolic rate 712
- López-López JR → Tamayo L
- Lorra C → Gómez-Hernandez JM
- Luheshi GN → Roth J
- MacIntosh BR → Aaron Tubman LA
- Magous R → Rodier G
- Malpartida JM → Nieto JL
- Mantovani M → Cavagna GA
- Martinez J → Rodier G
- Marunaka Y → Ito Y
- Marunaka Y → Niisato N
- Mastroberardino L → Spindler B
- Matsumoto T → Cao Y
- Matthes H-D → Löhre B
- McArdle JJ → Li X-Y
- Megighian A → Midrio M
- Michel MC → Bischoff A
- Midrio M, Danieli-Betto D, Megighian A, Betto R: Early effects of denervation on sarcoplasmic reticulum properties of slow-twitch rat muscle fibres 398
- Mitcheson JS, Hancox JC: Modulation by mexiletine of action potentials, L-type Ca current and delayed rectifier K current recorded from isolated rabbit atrioventricular nodal myocytes 855
- Miura M, Iwanaga T, Ito KM, Seto M, Sasaki Y, Ito K: The role of myosin light chain kinase-dependent phosphorylation of myosin light chain in phorbol ester-induced contraction of rabbit aorta 685
- Mochizuki T → Rodier G
- Moine G → Wittner M
- Molgó J → Van der Kloot W
- Morales A → Ivorra I
- Motomura H → Fujikawa S
- Motomura K → Cao Y
- Muders F → Pfeifer M
- Müller E → Ohno A
- Müller E → Schober A
- Müller GA → Grunewald RW
- Müller-Berger S, Coppola S, Samaržija I, Seki G, Frömter E: Partial recovery of in vivo function by improved incubation conditions of isolated renal proximal tubule. I. Change of amiloride-inhibitable K^+ conductance 373
- Müller-Berger S, Nesterov VV, Frömter E: Partial recovery of in vivo function by improved incubation conditions of isolated renal proximal tubule. II. Change of $NaHCO_3$ cotransport stoichiometry and of response to acetazolamide 383
- Münker G → Blank U
- Murer H → Helmle-Kolb C
- Musch G → Cavagna GA
- Muto S → Ono S
- Nadeau R → Godin-Ribuot D
- Nagel G → Weinreich F
- Nakazato Y → Kitamura N
- Naves LA → Van der Kloot W
- Naya T → Janssen PML
- Nesterov VV → Müller-Berger S
- Nielsen B, Strange S, Christensen NJ, Warberg J, Saltin B: Acute and adaptive responses in humans to exercise in a warm, humid environment 49
- Nieto JL, Diaz-Laviada I, Malpartida JM, Galve-Roperh I, Haro A: Adaptations of the β -adrenoceptor-adenylyl cyclase system in rat skeletal muscle to endurance physical training 809
- Niisato N, Marunaka Y: Regulation of Cl^- transport by IBMX in renal A6 epithelium 227
- Niisato N → Ito Y
- Nilius B → Trouet D
- Nitschke R, Benning N, Ricken S, Leipziger J, Fischer K-G, Greger R: Effect of intracellular pH on agonist-induced $[Ca^{2+}]_i$ transients in HT₂₉ cells 466
- Nitschke R → Leipziger J
- Nitschke R → Schreiber R
- Niv Y → Fraser GM
- Nuesslein-Hildesheim B → Stehling O
- Nygren A → Liss P
- Oberleithner H → Lärmer J
- Oberleithner H → Schwab A
- Odderson IR → Jubrias SA
- Ogata N → Fujikawa S
- Ohno A, Müller E, Frack M-L, Thureau K, Beck F-X: Solute composition and heat shock proteins in rat renal medulla 117
- Ohta T → Kitamura N
- Ohtsuru A → Cao Y

- Olbort M → Stehling O
 Oliver D, Plinkert P, Zenner HP, Ruppertsberg JP: Sodium current expression during post-natal development of rat outer hair cells 772
 Ono S, Kusano E, Muto S, Ando Y, Asano Y: A low- Na^+ diet enhances expression of mRNA for epithelial Na^+ channel in rat renal inner medulla 756
 Oppermann M → Grunewald RW
 Orchard CH → Hulme JT
 O'Broovich H → Ito Y
 O'Neill SC → Díaz ME
 Overgaard K, Bækgaard Nielsen O, Clausen T: Effects of reduced electrochemical Na^+ gradient on contractility in skeletal muscle: role of the Na^+ - K^+ pump 457
 Owyang C → Yoshida H
- Pajaud S → Wittner M
 Pappone PA → Lee SC
 Pardo LA → Gómez-Hernandez JM
 Pariente JA → Gonzalez A
 Park MK, Bae YM, Lee SH, Ho W-K, Earm YE: Modulation of voltage-dependent K^+ channel by redox potential in pulmonary and ear arterial smooth muscle cells of the rabbit 764
 Paton JFR → Kasparov S
 Pequignot J → Favier R
 Pequignot JM → Favier R
 Petrucci R → Tricarico D
 Pfeifer M, Wolf K, Blumberg FC, Elsner D, Muters F, Holmer SR, Riegger GAJ, Kurtz A: ANP gene expression in rat hearts during hypoxia 63
 Pfeifer M → Gess B
 Pfitzer G → Albrecht K
 Plinkert P → Oliver D
 Pohl U → Wit C de
 Pongs O → Gómez-Hernandez JM
 Portnoy M → Fraser GM
 Protti DA, Uchitel OD: P/Q-type calcium channels activate neighboring calcium-dependent potassium channels in mouse motor nerve terminals 406
- Quintin L → Rentero N
- Raes A, Wang Z, Berg RJ van den, Goethals M, Van de Vijver G, Bogaert PP van: Effect of cAMP and ATP on the hyperpolarization-activated current in mouse dorsal root ganglion neurons 543
 Rassier DE → Aaron Tubman LA
 Ratcliff R → King N
 Renström E → Gromada J
 Rentero N, Bruandet N, Quintin L: Absence of evidence for a powerful tonic baroreflex-mediated inhibition on catechol activity in the rat rostral ventrolateral medulla: in vivo voltammetric evidence during sino-aortic deafferentation 599
 Revsbech NP → Liss P
 Ribaut C → Godin-Ribaut D
 Richmond PH, Vaughan-Jones RD: Assessment of evidence for K^+ - H^+ exchange in isolated type-1 cells of neonatal rat carotid body 429
 Ricken S → Nitschke R
- Riegger GAJ → Gess B
 Riegger GAJ → Pfeifer M
 Riegger GAJ → Schricker K
 Riobos AS → Criado JM
 Riordan JR → Weinreich F
 Rizzo M → Willmann JK
 Rodier G, Magous R, Mochizuki T, Martinez J, Le Nguyen D, Bali J-P, Bataille D, Jarrousse C: Effect of glicentin, oxyntomodulin and related peptides on isolated gastric smooth muscle cells 729
 Rodriguez A → Favier R
 Rorsman P → Gromada J
 Roth J, Hopkins SJ, Hoadley ME, Tripp A, Aslan T, Störr B, Luheshi GN, Zeisberger E: Fever and production of cytokines in response to repeated injections of muramyl dipeptide in guinea-pigs 525
 Rouffignac C de → Wittner M
 Rouzaine-Dubois B, Dubois J-M: A proton pump contributes to neuroblastomaxglioma cell membrane potentials 750
 Rückes C → Blank U
 Rüegg JC → Albrecht K
 Ruppertsberg JP → Oliver D
- Sabolic I, Herak-Kramberger CM, Schweickhardt C, Burckhardt G: Absence of vacuolar H^+ -ATPases from rat small intestinal brush-border membranes 495
 Sagan S → Venance L
 Salido GM → Gonzalez A
 Saltin B → Nielsen B
 Samaržija I → Müller-Berger S
 Sándor P → Komjáti K
 Sasaki Y → Miura M
 Schäfer C → Wit C de
 Schiereck P → Janssen PML
 Schmidt I → Stehling O
 Schmidt-Hieber M → Willmann JK
 Schneider A → Albrecht K
 Schneider SW → Lärmer J
 Schober A, Müller E, Thureau K, Beck FX: The response of heat shock proteins 25 and 72 to ischaemia in different kidney zones 292
 Schreiber R, Greger R, Nitschke R, Kunzelmann K: Cystic fibrosis transmembrane conductance regulator activates water conductance in *Xenopus* oocytes 841
 Schricker K, Holmer S, Krämer BK, Riegger GAJ, Kurtz A: The role of angiotensin II in the feedback control of renin gene expression 166
 Schulze J-D → Gitter AH
 Schwab A, Finsterwalder F, Kersting U, Danker T, Oberleithner H: Intracellular Ca^{2+} distribution in migrating transformed renal epithelial cells 70
 Schwab A → Lärmer J
 Schwartz B → Fraser GM
 Schwarz JR → Weinsberg F
 Schweickhardt C → Sabolic I
 Seki G → Müller-Berger S
 Seki T → Yokoshiki H
 Sempore B → Favier R
 Seto M → Miura M
 Shigekawa M → Uehara A
 Silberagl S → Kuramochi G
 Simeone S → Wittner M
- Simmons NL → King N
 So I → Ahn S
 So I → Kim YC
 So I → Xu WX
 Speake PF, Gibson JS: Urea-stimulated K-Cl cotransport in equine red blood cells 104
 Sperelakis N → Yokoshiki H
 Spielvogel H → Favier R
 Spindler B, Mastroberardino L, Custer M, Verrey F: Characterization of early aldosterone-induced RNAs identified in A6 kidney epithelia 323
 Spratt JA → Hu P
 Stehling O, Döring H, Nüsslein-Hildesheim B, Olbort M, Schmidt I: Leptin does not reduce body fat content but augments cold defense abilities in thermoneutrally reared rat pups 694
 Stickan-Verfürth M → Bischoff A
 Stienen GJM → Buschman HPJ
 Störr B → Roth J
 Strange S → Nielsen B
 Stühmer W → Gómez-Hernandez JM
 Suh SH → Kim YC
 Sunagawa M → Yokoshiki H
 Süß K → Kolb FP
- Tamayo L, López-López JR, Castañeda J, González C: Carbon monoxide inhibits hypoxic pulmonary vasoconstriction in rats by a cGMP-independent mechanism 698
 Teerlink T → Bussemaker J
 Thiele IE → Hug MJ
 Thureau K → Ohno A
 Thureau K → Schober A
 Thureau K → Vaněčková I
 Timmann D → Kolb FP
 Tönhardt H → Lewin R
 Torffvit O, Edvinsson L: Blockade of nitric oxide decreases the renal vasodilatory effect of neuropeptide Y in the insulin-treated diabetic rat 445
 Toyama J → Guo W
 Trafford AW → Díaz ME
 Tricarico D, Petrucci R, Conte Camerino D: Changes of the biophysical properties of calcium-activated potassium channels of rat skeletal muscle fibres during aging 822
 Tripp A → Roth J
 Trouet D, Nilius B, Voets T, Droogmans G, Eggemont J: Use of a bicistronic GFP-expression vector to characterise ion channels after transfection in mammalian cells 632
 Tschöp J → Horster M
 Tse CM → Helmle-Kolb C
 Tsunoda Y → Yoshida H
 Tubman LA, Rassier DE, MacIntosh BR: Attenuation of myosin light chain phosphorylation and posttetanic potentiation in atrophied skeletal muscle 848
- Uchitel OD → Protti DA
 Uehara A, Iwamoto T, Shigekawa M, Imanaga I: Whole-cell currents from the cloned canine cardiac Na^+ / Ca^{2+} exchanger NCX1 overexpressed in a fibroblast cell CCL39 335
 Ulfendahl HR → Liss P
 Ullrich KJ → Willmann JK

- Unmack MA, Frederiksen O, Willumsen NJ: Interference of a short-chain phospholipid with ion transport pathways in frog skin 234
- Van de Vijver G → Raes A
- Van der Kloot W: How to test the sub-unit hypothesis 339
- Van der Kloot W, Molgó J, Naves LA: Cholinergic agonists decrease quantal output at the frog neuromuscular junction by targeting a calcium channel blocked by ω -conotoxin 735
- Van Driessche W → De Smet P
- Vaněčková I, Heller J, Thurau K: Possible contribution of impaired sodium excretion to the development and maintenance of hypertension: a study of the isolated kidneys of the Prague hypertensive rat 587
- Vaughan-Jones RD → Richmond PH
- Velez P → Escobar AL
- Venance L, Sagan S, Giaume C: (R)-methanandamide inhibits receptor-induced calcium responses by depleting internal calcium stores in cultured astrocytes 147
- Vergara JL → Escobar AL
- Verrecchia F, Hervé J-C: Reversible inhibition of gap junctional communication by tamoxifen in cultured cardiac myocytes 113
- Verrey F → Spindler B
- Viergutz T → Löhrke B
- Voets T → Trouet D
- Wang R, Wu L, Wang Z: The direct effect of carbon monoxide on K_{Ca} channels in vascular smooth muscle cells 285
- Wang S, Wright G, Geng W, Wright GL: Retinol influences contractile function and exerts an anti-proliferative effect on vascular smooth muscle cells through an endothelium-dependent mechanism 669
- Wang Z → Raes A
- Wang Z → Wang R
- Warberg J → Nielsen B
- Weber W-M → Blank U
- Weinreich F, Wood PG, Riordan JR, Nagel G: Direct action of genistein on CFTR 484
- Weinsberg F, Bauer CK, Schwarz JR: The class III antiarrhythmic agent E-4031 selectively blocks the inactivating inward-rectifying potassium current in rat anterior pituitary tumor cells (GH_3/B_6 cells) 1
- Westerhof N → Bussemaker J
- Willems PA → Cavagna GA
- Willmann JK, Bleich M, Rizzo M, Schmidt-Hieber M, Ullrich KJ, Greger R: Amiloride-inhibitable Na^+ conductance in rat proximal tubule 173
- Willumsen NJ → Unmack MA
- Wit C de, Schäfer C, Bismarck P von, Bolz S-S, Pohl U: Elevation of plasma viscosity induces sustained NO-mediated dilation in the hamster cremaster microcirculation in vivo 354
- Wittner M, Desfleurs E, Pajaud S, Moine G, Simeone S, Rouffignac C de, Di Stefano A: Calcium and magnesium transport in the cortical thick ascending limb of Henle's loop: influence of age and gender 451
- Wolf K → Gess B
- Wolf K → Pfeifer M
- Wood PG → Weinreich F
- Wright G → Wang S
- Wright GL → Wang S
- Wright LD → Hu P
- Wu J-Y, Cohen IS: Tyrosine kinase inhibition reduces, I_f in rabbit sinoatrial node myocytes 509
- Wu L → Wang R
- Xu WX, Kim SJ, So I, Kim KW: Role of actin microfilament in osmotic stretch-induced increase of voltage-operated calcium channel current in guinea-pig gastric myocytes 502
- Yajeya J → Criado JM
- Yamaguchi N → Godin-Ribuot D
- Yamashita S → Cao Y
- Yokoshiki H, Katsube Y, Sunagawa M, Seki T, Sperelakis N: Disruption of actin cytoskeleton attenuates sulfonylurea inhibition of cardiac ATP-sensitive K^+ channels 203
- Yoshida H, Tsunoda Y, Owyang C: Effect of uncoupling NO/cGMP pathways on carbachol- and CCK-stimulated Ca^{2+} entry and amylase secretion from the rat pancreas 25
- Zdebek A, Hug MJ, Greger R: Chloride channels in the luminal membrane of rat pancreatic acini 188
- Zeisberger E → Roth J
- Zenner HP → Oliver D
- Zhang K-M → Hu P
- Zorec R → Kreft M

Indexed in *Current Contents*,
Index Medicus and *EMBASE*

Subject Index

- A**
- A6 11
- A6 cells 227
- A6 epithelia 11
- A6 kidney epithelia 323
- A23187 104, 261, 313
- Abdominal temperature 525
- 4-Acetamido-4-isothiocyanatostilbene-2,2'-disulphonic 413
- Acetate 466
- Acetazolamide 383
- Acetylcholine 188, 413, 445, 642
- Acetylcholine receptors 38
- Ach 445
- AChR agonists 38
- AChRs 38
- Acid load 429
- Acid-base state 392
- Acidic pH_i 466
- Acidosis 475
- Actin 203
- Actin microfilament 502
- Action potentials 515
- Activation curve 543
- Acute renal failure 292, 705
- Acute tissue hypoxxygenation 568
- Adenosine 77
- Adenosine cyclic monophosphate 809
- Adenosine triphosphate 785
- Adenylyl cyclase 809
- Adipocytes 422
- Adiposity 694
- ADP 77
- Adrenal chromaffin cells 179, 592
- Adrenaline 159, 592
- Adrenergic neurons 599
- α_2 -Adrenergic stimulation 712
- β -Adrenoceptor 809
- β -Adrenoceptor-adenylyl cyclase 809
- β -Adrenoreceptor 166
- ADTN 313
- Adult mice 195
- AFM 254
- ω -Aga-IVA 406
- ω -agatoxin 179
- ω -Agatoxin IVA 406
- ω -Agatoxin-IVA 592
- Age 246, 451
- Aging 822
- Aging humans 246
- Agonist potency 38
- ω -AgTx 179
- Alcohol 429
- Aldosterone 323
- Alkali load 429
- Alkaline pH_i 466
- Alkalinization 392
- Almitrine 97, 97
- Alternate Cl^- conductance 575
- Ambigul nuclei 438
- Amiloride 11, 19, 173, 234, 373, 492, 581, 721, 801
- Amiloride sensitivity 123
- Amiloride-bumetanide 492
- Amiloride-inhibitable K^+ conductance 373
- Amiloride-inhibitable Na^+ channels 234
- 4-Aminopyridine 750, 764
- 4-Amino-pyridine 195
- AMP 77
- AMP-PCP 77
- Amylase secretion 25
- Anandamide 147
- Anemone 742
- Anesthesia 280
- ANF 362
- Angiotensin II 166, 698
- Annexins II 261
- Annexins III 261
- Annexins V 261
- ANP 63, 362
- ANP gene expression 63
- ANP secretion 362
- Anterior pituitary 1
- Anterior pituitary tumor cells 1
- Anthopleura xanthogrammica* 742
- Anthopleurins A 742
- Anthopleurins B 742

- Anti-oestrogen compounds 113
 Anti-oestrogen drug 113
 Antisense 499
 Antrum 729
 Aortic rings 669
 4-AP 195
 Apical cell membrane 234
 Apical membrane 123
 Apical plasma membrane surface 254
 Apical surface 830
 Apomorphine 313
 Apoptosis 647
 Arachidonic acid 147
 Arterial 438
 Arterial adrenaline 159
 Arterial pressure 57, 438, 599
 Arterioles 354
 (4-di-2-Asp) 581
 Astrocytes 147
 Atomic force microscopy 254
 ATP 77, 77, 422, 466, 484, 534, 543, 712, 785
 ATP[γ -S] 822
 ATPase 242
 ATP-sensitive K^+ 515
 ATP-sensitive K^+ channels 203
 Atrial lumen 362
 Atrial natriuretic peptide 63, 362
 Atrial pressure 362
 Atrophy 848
 Atropine 438, 642
 Attention 91
 Autoinhibition 735
- B**
- 293B 499
 Ba^{2+} 151, 306
 Ba^{2+} current 346
 Baclofen 84
 Bafilomycin 495
 Bafilomycin A1 750
 BAPTA 227, 346, 406, 475
 Baroreceptor cardiac reflex 438
 Baroreceptor reflex 438
 Baroreceptor vagal reflex 438
 Baroreceptors 159
 Barosensitive afferents 599
 Basolateral 77
 Basolateral membran 721
 Basolateral membrane 11, 123, 267
 BBMV 575
 BCECF 123, 466, 721
 Benzamil 19
 Betaine 117, 815
 Bicistronic GFP-expression 632
 Bicistronic vector 632
 Bicuculline 272
 Biopsies 246
 1,2-bis (o-amino-phenoxy)-ethane-*N,N,N',N'*-tetraacetic acid tetra-(acet-oxymethyl)-ester 227
 2',7'-bis(carboxyethyl)carboxy-fluorescein 721
 2',7'-bis(carboxymethyl)-5(6)-carboxy-fluorescein 123
 Bitter 215
 Bitterness 215
 Blocking characteristics 151
 Blood flow 639, 785
 Blood flow heterogeneity 785
 Blood pressure 159, 280, 705
 Body fat 694
 Body's bouncing system 678
 Bovine 592
 Bovine aortic endothelial cells 669
 Bovine monocytes 712
 Br 575
 Bradycardia 438
 Brain 195, 661
 Brain slices 559
 Breast cancer cell line 341
 Brefeldin A 492
 Bromo-cAMP 123
 Brown adipocytes 422
 Brush-border 575
 Brush-border membranes 495
- C**
- C1 cell group 599
 C2 neurones 313
 Ca release 852
 Ca^{2+} 70, 227, 261, 313, 362, 475, 735
 Ca^{2+} /calmodulin 346
 Ca^{2+} /calmodulin-dependent protein kinase 475
 Ca^{2+} /H $^+$ exchange 609
 Ca^{2+} activated Cl $^-$ channel 779
 Ca^{2+} capacity 398
 Ca^{2+} channel 362
 Ca^{2+} channels 84, 592
 Ca^{2+} chelators 406
 Ca^{2+} current 179
 Ca^{2+} currents 515
 Ca^{2+} distribution 70
 Ca^{2+} entry 25
 Ca^{2+} metabolism 609
 Ca^{2+} oscillations 609
 Ca^{2+} signal 609
 Ca^{2+} signaling 615
 Ca^{2+} stores 70
 Ca^{2+} tension 398
 Ca^{2+} uptake 398
 Ca^{2+} -absorption 451
 Ca^{2+} -activated K^+ channels 822
 Ca^{2+} -dependent Cl $^-$ currents 413
 Ca^{2+} -gated K^+ currents 406
 $[Ca^{2+}]_i$ 70, 77, 179, 362
 $([Ca^{2+}]_i)$ 466, 475, 515
 $[Ca^{2+}]_i$ 581
 $[Ca^{2+}]_i$ transients 466
 Caco-2 300
 Caco-2 cells 300
 Caesium methanesulphonate 38
 Caffeine 313, 398
 Caged-ATP 534
 Caged calcium 615
 Calcein 466
 Calcitonin gene-related peptide 445
 Calcium 451, 852
 Calcium buffers 406
 Calcium channel 84, 179, 735
 Calcium channels toxin 406
 Calcium current 502
 Calcium currents 215
 Calcium indicators 615
 Calcium responses 147
 Calcium signalling 147, 609
 Calcium spike firing 559
 Calcium stores 147
 Calcium transport 300
 Calcium-activated chloride current 38, 261
 Calcium-activated K channels 285
 Calcium-activated potassium channels 822
 Calcium-dependent 406
 Calcium-dependent chloride channels 413
 CalciumGreen-2 615
 Calcium-induced contraction 534
 CalciumOrange-5N 615
 Calciuresis 57
 Caldesmon 534
 Calmodulin 313, 323
 Calphostin C 123
 Calponin 534
 Calyculin 104
 cAMP 77, 227, 499, 515, 543, 779, 841
 cAMP activated K^+ conductance 499
 cAMP-stimulated Cl $^-$ secretion 801
 Canine 335
 Capacitance 267
 Capsaicin 159
 Carbachol 25, 188, 300, 346, 466, 735
 Carbachol (CCh)-activated nonselective cationic current 505
 Carbon monoxide 285, 568, 698
 Carbonic anhydrase 383
 Carboxy-SNARF-1 429
 Carcinogenesis 801
 Cardiac metabolism 785
 Cardiac muscle 475, 795, 852
 Cardiac myocytes 113
 Cardiac vagal tone 438
 Cardiomyocytes 362
 Cardiovascular control 280
 Cardiovascular system 49
 Carotid body 97, 429
 Carotid body type-1 cells 429
 Cat 144
 Cats 91
 Catechol 599
 Catecholamine release 592
 Catecholamine secretion 179
 Catecholaminergic 97
 Catecholamines 457
 Cation permeation 151
 Cats 91
 CCK 466
 CCK-8 25, 609
 CCL39 335
 cDNA 123, 632, 756
 cDNA fragments 323
 Cell division 341
 Cell injury 292
 Cell maturation 451
 Cell monolayers 300
 Cell volume 104, 466, 750
 Cell-attached 188
 Cell-attached patches 212
 Cell-free excised patches 188
 Cellular substrate supply 383
 Central command 280
 Central opioid peptiderg mechanisms 144
 Cerebral blood flow 144
 CF 19
c-fos 568
 CFTR 484, 499, 575, 779, 841
 CFTR channels 484
 cGMP 25, 698
 CGR-2 615
 CGRP 445
 ω -CgTx 406
 θ -CgTx 179
 Charge movement 267
 Charybdotoxin 822
 Chelerythrine 313, 505
 Chemically skinned fibres 398
 Chemoreceptor cells 698
 Chemosensory nerve fibers 97
 Chicken embryos 639
 Chinese hamster ovary cells 779
 Chiral analog 147
 Chloride channel 261
 Chloride channels 188, 484, 841
 Chloride conductance 779
 Chloride conductances 801
 Chloride current 484
 Chlorophenylthio cAMP 509
 Chlorpromazine 313
 CHO 779
 Cholecystokinin 609, 729
 Cholecystokinin octapeptide 25
 Choline transport 815
 Cholinergic agonists 735
 Chromaffin cells 592
 Chromanol 293B 499
 Chronic hypoxia 63
 Chronic Mountain Sickness 97
 Circumvallate papillae 215
c-jun 568
 Cl 575
 $^{36}Cl^-$ efflux 801
 Clark electrode 705
 Class III antiarrhythmic agent 1
 Cl $^-$ 188
 Cl $^-$ channel 779
 Cl $^-$ conductance 575, 841
 Cl $^-$ current 499
 Cl $^-$ currents 413
 Cl $^-$ gradient 575
 Cl $^-$ secretion 188
 Cl $^-$ transport 227
 Clomiphen 113
c-myc 568
 Cnidarian venoms 742
 CO 285
 Co^{2+} 313, 559
 CO_2 tension 392
 CO_3^{2-} /pH disequilibrium 383
 Cochlea 267
 Colchicine 502
 Cold defense 694

- Collecting duct urine 392
Colon 77, 300
Colonic crypt 499
Colonic crypts 77
Colonocytes 801
Conductance 132, 422, 515
Conductance scanning 830
Confluent monolayers 19, 581
Confocal measurements 466
Confocal spot microfluorimetry 615
 ω -Conotoxin 179
 ω -Conotoxin 735
 ω -Conotoxin GVIA 406, 735
 ω -Conotoxin MVIIC 592, 735
Constitutive traffic 212
Contractile activity 242
Contractile force 457
Contractile performance 669
Contractility 457, 669
Contraction 534, 551
Contraction tension 398
Contraction time 398
Contralateral renal artery clip 166
CO₂-5N 615
Core temperature 49
Coronary artery 159
Coronary ligation 159
Coronary occlusion 159
Cortex 292
Cortical activity 91
Cortical thick ascending limb of Henle's loop 451
COS cells 632
CPTcAMP 509
Crayfish muscle 272
Crayfish opener muscle fibers 272
Cremaster microcirculation 354
cRNA 484, 499
Cromakalim 712
Cross-bridge cycle 795
Crossbridges 534
Cross-bridges 795
Crustacean muscle 272
Crustacean muscle fibers 272
Crypt 801
Cs⁺ 151, 750
C-terminal fragments 729
Current clamp 830
Current-clamp 306
Cyanate 104
Cycloheximide 11
Cyclooxygenase 354
Cystic fibrosis 19, 779
Cystic fibrosis transmembrane conductance 841
Cystic fibrosis transmembrane conductance regulation 499
Cystic fibrosis transmembrane conductance regulator 484, 779
Cytisine 38
Cytochalasin D 203
Cytochalasin-D 502
Cytokines 525
Cytokinesis 341
Cytokinetic disturbance 341
Cytoplasmic Ca²⁺ concentration 515
Cytoskeleton 203
Cytosolic calcium 113
Cytosolic pool 492
- D**
- d(CH₂)₅Tyr(Me)-AVP 123
DDPC 234
Decay rates 313
Decay time constants 195
Decerebrate locomotor preparation 280
Deep-pore region 661
Delayed rectifier current 195
Dendrites 559
Dendrotoxin 195
Denervation 398
Depolarization 362
Descending limb 721
Desensitization properties 313
Desensitization rate 38
Desmopressin 123
Detergents 495
Developing rat 438
Development 206
Developmental changes 206
Dexamethasone 801
Dextran 354
Dextranerythrocyte 354
D-glucose 373, 383
DHO 559
Diabetes mellitus 445
Diabetic rat 445
Diastole 639
Diastolic function 795
Diastolic vibration 795
Diatrizoate 705
Dibutyl cAMP 212
Didecanoyl-L- α -phosphatidylcholine 234
DIDS 188, 413, 575
Dietary treatment 117
4-(4-diethylamino)styryl-N-methylpyridinium iodine 581
Differential display PCR 323
Diffusional coupling 113
Digestion 729
Dihydro- β -erythroïdine 642
Dihydro-ouabain 559
4,4'-diisothiocyanatostilbene 2,2'-disulphonate 575
4,4'-Diisothiocyanatostilbene-2,2'-disulphonic acid 413
Diltiazem 362
Dimethylhydrazine 801
1,1-Dimethyl-4-phenylpiperazinium iodide 38
Distal colon 77
Distal colon epithelium 801
Distal colonic mucosa 77
Distal lung epithelium 492
Distal tubular fluid 392
Distilled water 429
Dithiothreitol 764
- 2,2-dithio-bis(5-nitropyridine) 764
Diuresis 57
Divalent cation absorption 451
DM-BAPTA 406
DMEM 373
DM-nitrophen 615
DMPP 38
D-*myo*-inositol 1,2,6-triphosphate 57
DNase I 203
Dopamine 97
Dopamine channels 313
Dopamine-gated currents 313
Dorsal root ganglion 84, 543
Dorsomedial thalamic nucleus 91
Double-electrode voltage-clamp experiments 841
DRG neurons 543
DTBNP 764
DTT 764
Dulbecco's modified Eagle's tissue culture medium 373
Dynamic exercise 280
- E**
- E16-TA1 323
E-4031 1
Ear arterial smooth muscle 764
ECG 639
Efficiency 678
EGR-1 568
EGTA 406, 534
Ehrlich ascites 261
EIPA 19, 123
Electrogenic proton pump 750
Electron microprobe analysis 117, 451
Electronic circuits 137
Electrophysiological properties 398
Electrophysiology 413, 559
EMG 137
ENaC 323
Endocytosis 212
Endothelial autacoids 354
Endothelial mediators 354
Endothelin-1 445
Endothelium 354, 669
Endurance physical training 809
Energy turnover 534
Enterocytes 495
Epididymal 422
Epithelial cell polarity 647
Epithelial Na⁺ channel 19, 173, 581, 801
Epithelial Na⁺ channels 756
Epithelial nephrogenesis 647
Epithelium 77
EPSC 272
EPSC depression 272
Equine 104
Erythropoietin-producing cells 698
Estrogen 97
ET-1 445
- Ethylenebis(oxonitrilo)tetraacetate 534
Ethylisopropylamiloride 123
Excised apical plasma membrane 254
Excised inside-out patches 254
Excised membrane patches 285
Excised patches 484
Excitability 457
Excitation 457
Excitatory postsynaptic currents 272
Excitatory response 313
Exendin-4 515
Exercise 809
Exhaustion 49
Exocrine cells 609
Exocrine pancreas 188
Exocrine secretion 77, 188
Exocytosis 212, 422, 515, 592, 779
Expression 841
Expression system 123
Expression vector 341
Extracellular ATP 422
Extracellular Na⁺ 609
Extracellular surface 254
Eye movements 91
- F**
- F 575
Facilitation 735
F-actin 341
Fast-twitch fibres 332
Fast-twitch muscle 209
Fatigue 457
Feedback control 166
Feedforward control 280
Fetal rat 492
Fever 525
Fiber type 209
Fibre diameters 551
Fibroblast cell 335
Filamentous actin 341
Flash photolysis 615
Flow cytometry 712
Flow-dependent vasodilation 354
Flufenamate 306
Fluo-3 615
Fluorescence transients 615
Fluorescent dye 113
Fluoride 313
Fluorophore 429
Foliate 215
Force production 332
Force response 551
Force variation 332
Force-generating proteins 242
Forskolin 484, 779, 801
Frog 735
Frog skin 234
FTX 406
Funnel-web spider toxin 406
Fura-2 19, 466
Fura-2/AM 70
Fura-2 technique 77
Furosemide 166

G

G proteins 285
 GABA 272
 GABA_B 84
 G-actin 341
 Gap junction 113
 Gastric acid secretion 729
 Gastric antral myocytes 346
 Gastric myocytes 346, 502, 505
 Gastric smooth muscle 502
 Gastric smooth muscle cells 729
 Gastrocnemius muscle 809
 Gel electrophoresis 551
 Gender 451
 Gene expression 63, 209, 341
 Genistein 484, 509
 GH₃/B₆ cells 1
 Giant patch techniques 484
 Glial cell 147
 Glibenclamide 188, 203, 362, 712, 841
 Glucicentin 729
 Glioma 750
 Glipizide 362
 Globular actin 341
 Glossopharyngeal nerves 599
 GLP-1 515
 GLP-1[7-36]amide 515
 Glucagon 515, 729
 Glucagon-like peptide 1 515
 Glucagon-like peptide 1(7-36)amide 515
 Glucocorticoid 173
 Glucocorticoid receptors 323
 Glucocorticoids 801
 Gluconate 575
 Glucose 515
 Glucose uptake 575
 Glycerol uptake 841
 Glycerophosphorylcholine 117, 815
 GMP 285
 G-protein 323
 G-proteins 809
 Green fluorescent protein 632
 Growth 669
 G_s protein 809
 GTP[γS] 346, 505
 Guanosine 3',5'-cyclic monophosphate 25
 Guanosine 5'-O-(3-thiotriphosphate) 346
 Guanosine cyclic monophosphate 285
 Guanosine triphosphate 809
 Guanylin 25
 Guinea-pig 346, 502, 505, 534
 Guinea-pigs 525
 Gustation 215
 Gustatory action potential 215
 Gustatory transduction 215
 GVIA 179

H

³H mannitol 300

H⁺ secretion 495
 H₂-gas clearance technique 144
 H₂O 188
 H7 313
 H89 227
 Haematocrit 354
 Haemoprotein 698
 Hair cells 267
 Halothane 599
 Hamster 354, 721
 HAT-29 300
 H⁺-ATPase 495, 750
 HCO₃⁻ 383, 392
 Hearing 267
 Heart 335, 568
 Heart rate 280, 438, 639
 Heat shock proteins 117, 292
 Heat stress 49
 Helix 313
 Hemorrhage 144
 Henle 815
 Henle's loop 815
 Herbimycin A 509
 HERG 1
 Heterologous expression 123
 Heterozygotes 575
 High altitude 97
 High-performance liquid chromatography 117
 High-resistance epithelium 234
 High-salt diet 166
 High-voltage activated 84
 Hippocampal neurones 195
 HOE 694 123
 Hormonal stimulation 373
 Hormones 49, 729
 HSP25 292
 HSP72 292
 HSPs 117, 292
 HT29 cells 300
 HT₂₉ cells 466
 5-HT 445
 Human 19
 Human biopsy 551
 Human nasal epithelium 581
 Human skeletal muscle 551
 Humid environment 49
 Humid heat 49
 HVA 84
 5-Hydroxytryptamine 445
 Hyperpolarization-activated chloride channels 413
 Hyperpolarization-activated current 543
 Hyperpolarizing current 559
 Hypertension 587
 Hypertensogenic 587
 Hypertonic solution 735
 Hypotension 144, 705
 Hypothalamic autoregulation 144
 Hypoventilation 97
 Hypoxia 63
 Hypoxic erythrocytosis 97
 Hypoxic pulmonary vasoconstriction 698, 764
 Hypoxygation 568

I

I 575
 IBMX 227, 484, 499, 779, 841
 I_{Ca} regulation 272
 I_{CCh} 505
 (I_{Cl(Ca)}) 413
 i_t 509
 I_h 543
 I_{K,IR} 1
 IL-6 525
 Ileum 729
 Imaging 254
 Immature oocytes 413
 Immediate early gene expression 568
 Immunocytochemistry 206
 In situ fluorescence calibration 429
 In vitro 373
 In vivo 354, 373, 383
 In vivo cell marker 632
 In vivo function 373, 383
 In vivo voltammetry 599
 Indicators 615
 Indomethacin 354
 Induction 647
 Inexpensive method 137
 Inguinal 422
 Inhibitory postsynaptic currents 272
 Inner 292
 Inner ear 772
 Inner medulla 117
 Inner medullary collecting duct 756
 INO 785
 Inorganic phosphate 534
 Inosine 785
 Inositol 147
 Inositol 1,4,5-triphosphate 466
 Input resistance 215
 InsP₃ 466
 Insulin 11, 445, 457, 515
 Insulin secretion 515
 Intercellular diffusion 113
 Intercellular spaces 830
 Interleukin-6 525
 Internal free [Ca²⁺] 313
 Internal pools 147
 Internal stores 147
 Interstitium 392
 Intestinal calcium absorption 300
 Intracellular Ca²⁺ 77
 Intracellular [Ca²⁺] 346
 Intracellular Ca²⁺ 475
 Intracellular Ca²⁺ 581
 Intracellular Ca²⁺ activity 466
 Intracellular Ca²⁺ concentration 70
 Intracellular chloride 38
 Intracellular free Ca²⁺ signals 609
 Intracellular free calcium 285, 581
 Intracellular injection of Ca²⁺ 413

Intracellular Na⁺ concentrations 373
 Intracellular pH 429, 466, 609, 721
 Intracerebral opiate receptor 144
 Intrarenal arteries 445
 Intrarenal oxygen tension 705
 Inward current 509
 Inward rectifier Cl⁻ current 413
 Inwardly rectifying K⁺ channel 151
 Inwardly rectifying potassium currents 215
 Inward-rectifying potassium current 1
 Iodocyanopindolol 809
 Ion channel 422
 Ion channel cDNA 632
 Ion channels 132, 632
 Ion secretion 77
 Ion transport 234
 Ionic channels 413
 Ionomycin 212, 227, 609, 735
 IPSC 272
 I_{sc} 11, 19
 Ischaemia 292, 785
 ISDN 306
 IsK 499
 IsK protein 499
 Isobutylmethylxanthine 499, 779
 3-Isobutyl-1-methylxanthine 227, 841
 Isobutyl methylxanthine 484
 Isokinetic force 246
 Isokinetic knee extension 246
 Isolated kidney 587
 Isolated proximal tubule 383
 Isolated renal proximal tubule 373
 Isolated S2 segments 383
 Isometric twitch 398
 Isoprenaline 475
 Isoproterenol 166, 809
 Isosorbiddinitrate 306
 Isotopic transport rate measurements 300
 IVA 179

J

Janssenamplitude 795
 JMV-180 25
 Juxtaglomerular cells 166

K

K⁺ 151
 K⁺ channel 206, 499, 764
 K⁺ channel blocker 293B 499
 K⁺ channel currents 285
 K⁺ channel proteins 206
 K⁺ channel subunits 206
 K⁺ channels 70
 K channels 285
 K⁺ concentration 429
 K⁺ conductance 306, 383

- K⁺ current 195
 K⁺ currents 206, 642
 K influx 104
 K_{ATP} 515
 K⁺_{ATP} channels 362
 KB-R7943 335
 K_{Ca²⁺} 822
 K_{Ca} channels 285
 K⁺-channel 354
 K-Cl cotransport 104
 K⁺-evoked depolarization 592
 K⁺-H⁺ exchange 429
 Kidney 11, 117, 292, 392, 587, 756
 Kidney cells 254
 Kidney cortex brush-border 575
 Kidney development 647
 Kinetic modeling 615
 Kinetics 132
 Kv 1.4 206
 Kv 1.5 206
 Kv1 gene family 661
 Kv1.1 132, 661
 Kv1.4 132
 Kv1.6 661
 K_VLQT channels 499
 K_VLQT subunits 499
- L**
- La³⁺ 70
 Labelled microspheres 785
 Lactate 373, 785
 L-alanine 373
 Lamellipodium 70
 Lanthanum 1
 Large intestine 729
 Laryngeal nerves 599
 Laser flash photolysis 615
 Latch bridges 534
 Latch crossbridges 534
 Latissimus dorsi 209
 Length perturbation 795
 Leptin 694
 Li⁺ 151
 Li 335
 Lidocaine 159
 Light chain kinase inhibitors 346
 Lithium 559
 Liver 568
 L-NAME 25
 L-NNA 354
 Load-dependent relaxation 795
 Local conductance 830
 Local superfusion technique 70
 Locomotion 91
 Locomotor speed 280
 Locus ceruleus 97
 Losartan 166
 Low-Na⁺ diet 173, 756
 Low-salt diet 166
 L-type Ca²⁺ channel 362
 L-type Ca²⁺ channels 179
 L-type Ca²⁺ conductance 272
 L-type current 272
 Luminal membrane 173, 188
 Luminal pH 721
- Luminal wall shear stress 354
 Lung 568
 Lung preparation 698
- M**
- Magnesium 451, 661
 Magnetic resonance imaging 246
 Mammalian cells 632
 Mammary carcinoma 341
 Maturation 438
 MDCK cells 123, 254
 MDCK-C11 cells 830
 Mechanical power 678
 Mechanical properties 551
 Mechanical vibration 795
 Mechanoreceptors 280
 Medulla 292
 Membrane capacitance 212, 779
 Membrane conductance 779
 Membrane currents 413
 Membrane electrical properties 422
 Membrane lipid-protein interaction 234
 Membrane polarization 559
 Membrane potential 285, 457, 515, 559
 Membrane potentials 373, 383, 750
 Membrane receptors 609
 Membrane turnover 212
 Membrane vesicle 575
 Membrane vesicles 575
 Membrane voltage 466, 779
 MEPCs 339
 2MeS-ATP 77
 Mesencephalic locomotor region 280
 Mesenchyme-to-epithelium transition 647
 Metabolic rate 694, 712
 Metabolic responses 49
 Metabolic stimulation 373
 Metabolic substrate 383
 Metabolic substrates 373
 Metabotropic receptor 261
 Metanephric mesenchyme 647
 Methanesulphonanilides 1
 Method 137
 Methylene blue 698
 Methyllycaconitine 581
 Mg 104
 Mg²⁺-absorption 451
 MgATP 505, 822
 Microdissected tubules 451
 Microelectrode 705
 Microelectrode techniques 373
 Microelectrodes 383, 559
 Microfluorimetric techniques 383
 Microperfused 373
 Microperfusion 451
 Midpoint potential 543
 Migration 70
 Mineralo receptors 323
 Miniature end-plate currents 339
- Miniature endplate potentials 735
 ML-7 346
 MLA 581
 MLCK 346
 MLR 280
 Mn²⁺ 70, 809
 Molecular resolution 254
 Monovalent cations 151
 Morphology 669
 Motility 267
 Motor activity 91
 Motor nerve terminals 406
 Motor task 91
 Mouse 341, 406, 515, 543
 mRNA 63, 209, 341, 756, 801
 mRNA expression 756
 mRNA levels 166, 568
 mRNAs 323
 Multi-ion pore 151
 Multinuclear cell 341
 Muramyl dipeptide 525
 Murine 195
 Muscle 137
 Muscle activity 137
 Muscle atrophy 246
 Muscle cross-sectional area 246
 Muscle elasticity 678
 Muscle fatigue 457
 Muscle fibre types 551
 Muscle fibres 242
 Muscle mechanics 551
 Muscle tonus 137
 MVC 246
 Mycotoxin 392
 Myocardial ischaemia 159, 785
 Myocardial oxygen supply 785
 Myocardial perfusion 785
 MyoD 209
 Myofibrillar adenosine triphosphatase 242
 Myofibrils 242
 Myogenin 209
 Myo-inositol 117
 Myosin 332
 Myosin content 332
 β, α-Myosin gene expression 63
 Myosin heavy chain 246, 551
 Myosin light chain 848
 Myosin light chain kinase 346
- N**
- N^G-nitro-L-arginine methyl ester 25
 Na⁺ 151, 188, 306, 721
 Na⁺/Ca²⁺ exchanger 335
 Na⁺/glucose cotransporter 575
 Na⁺/H⁺ antiporter 721
 Na⁺/H⁺-exchanger 123
 Na/K ATPase 559
 Na/K pump 373
 Na⁺/K⁺ pump 492
 Na⁺ absorption 19, 173, 492
 Na⁺ channels 173
 Na channels 323
 Na⁺ channels 742
 Na⁺ conductance 19, 173
 Na⁺ deprivation 173
 Na diet 117
 Na⁺ gradient 457
 Na reabsorption 323
 Na⁺ transport 234
 Na transport 323
 Na⁺ transport 756
 Na⁺ uptake 801
 Na₄⁺ 306
 Na-Ca exchange 852
 NaCl absorption 77
 NaCl secretion 77
 Nafoxidine 113
 Na-HCO₃ cotransport 383, 383
 [Na⁺]_i 373
 Na⁺-K⁺ pump 457
 Na⁺-K⁺-ATPase 11
 Na,K-ATPase 323
n-Alkyl sulphate anions 132
 Naloxone 144
 Nasal epithelium 19
 Natriuresis 57, 587
 NCX1 335
n-Docetyl sulphate 132
 Neonatal 438
 Neonatal rat 206, 429
 Neoplastic murine colonocytes 801
 Nephron 721
 Nephrotoxicity 392
N-ethylmaleimide 104
 5-(*N*-ethyl-*N*-isopropyl)2',4'-amiloride 19
 Neuroblastoma cells 750
 Neuroblastoma 750
 Neuroblastoma cells 285
 Neuromuscular junction 406, 735
 Neurones 91, 313
 Neurons 38
 Neuropeptide Y 57, 445
 Neurosecretion 592
 Neurotensin 466
 N^G-nitro-L-arginine 354
 N^G-nitro-L-arginine methyl ester 445
 NH₃/NH₄⁺ 466
 NH₄⁺ 151
 NH₄⁺ conductance 306
 NHE3 123
 Ni 335
 Nicotine 581, 642
 Nicotinic receptor 581
 Nicotinic receptors 38, 581
 Nifedipine 179, 227
 Niflumic acid 413
 Nigericin 429, 609
 Nitrendipine 406
 Nitric oxide 25, 242, 354, 445
 Nitric oxide synthase 445
 Nitroprusside 25
 5-Nitro-2-(3-phenylpropylamino)-benzoate 227
 5-Nitro-2-(3-phenylpropylamino)-benzoic acid 575
 NMDG⁺ 188
N-methyl-L-arginine 698
N-methyl-D-glucamine 188
N-methyl-D-glucamine⁺ 306

NO 25, 242
 NO/cGMP pathways 25
 NO donor 242
n-Octyl sulphate 132
 NO-cyclic guanosine monophosphate 698
 NO-mediated dilation 354
 Non-cystic-fibrosis 19
 Non-excitable cells 581
 Nonselective cation channels 492
 Nonselective cationic current 346
 Non-selective cationic current 505
 Noradrenaline 592
 Noradrenergic cell groups 97
 Norepinephrine 97, 383, 422
 Northern blot 756
 Northern blot analysis 323
 NO-synthase 354
 NPPB 188, 227, 575
 NPY 57, 445
 N-type Ca^{2+} channels 179, 735
 Nucleus olivaris superior 97
 Nucleus reticularis lateralis 97
 Nucleus tractus solitarius 438
 Nystatin perforated patch clamp 84
 Nystatin-perforated mode 505
 Nystatin-perforated-patch 764

O

Obesity 422
 Ochratoxin A 392
 Ontogenesis 438
 Oocytes 484, 499
 Open probability 822
 Opiate receptor 144
 Opiate receptor blockade 144
 Opioid peptides 144
 Organ of Corti 772
 Organic osmolytes 815
 Organotypic culture 772
 Ortho-vanadate 484
 Oscillations 70
 Osmoregulation 815
 Osmotic stress 502
 Osmotic stretch 502
 Osmotic stretch-induced 502
 Ouabain 11, 457, 492, 721
 Ouabain-binding 11
 Outer 292
 Outer hair cell motor 267
 Outer hair cells 267, 772
 Outer medulla 151, 705
 Outer medullary thick ascending limb 815
 Outside-out patches 38, 313
 Oxonol 712
 Oxygen 104
 Oxygen saturation 639
 Oxygen tension 104
 Oxyntomodulin 729

P

P/Q family 406
 P/Q-type calcium channels 406

P2Y-receptor 77
 Pacemaker current 509
 Pancreas 25
 Pancreatic acinar cells 609
 Pancreatic acini 25, 188
 Pancreatic B-cells 515
 Papillary muscle 795
 Papillary tip 117
 Paracellular epithelial conductivity 830
 Paracellular pathway 300
 Paracellular process 451
Pars intermedia 212
 Partial coronary stenosis 785
 Passive permeability 451
 Patch clamp 188, 742
 Patch clamp technique 203
 Patch-clamp 1, 195, 206, 285, 346
 Patch-clamp technique 173, 254, 335, 764, 822
 Patch-clamp techniques 267
p-Chloromercuri-benzene sulphonate 841
 pCINeo, IRES-GFP 632
 PDBu 505
 Peak force 332
 Pedunculopontine tegmental nucleus 280
 Pentobarbital 599
 Peptide hormones 451
 Peptide inhibitor 346
 Perforated-patch configuration 543
 Perforated-patch voltage-clamp 422
 Performance 49
 Perineurial recordings 406
 Permeabilized-patch-clamp technique 509
 Permeable support 300
 Permeases 323
 Perturbation 795
 Pertussis toxin 84, 147
 pH 383, 392, 475
 pH homeostasis 392
 Phalloidin 502
 Phenamil 19
 Phenylephrine 438, 599
 pH_i 383, 429, 466
 Phloretin 841
 pH-microelectrode 392
 Phorbol 12, 13 dibutyrate 505
 Phorbol 12-myristate 13-acetate 123
 Phorbol ester 123, 313
 Phosphatase 313
 Phosphodiesterase 227
 Phospholamban 209, 475
 Phospholipase C 147
 Phospholipid 234
 Phosphorylation 104, 475, 543, 848
 Phosphorylation-site-specific antibodies 475
 Photobleaching 113
 Picrotoxin 272
 Pig 179
 Pig heart 785
 Pinacidil 362
 PKA 515
 PKC 123, 505
 PKC activator 505
 Plasma concentration 63
 Plasma membrane 70
 Plasma membrane proteins 254
 Plasma viscosity 354
 PMA 123
 pO_2 705
 Point mutation 341
 Polycythemia 97
 Porcine 179
 Posterior parietal cortex 91
 Postnatal development 772
 Postreceptor sites 505
 Postsynaptic excitability 272
 Posttetanic potentiation 848
 Potassium 445
 Potassium channels 132, 406, 661
 Potassium current 413, 422
 Potassium currents 215
 Potassium-hydrogen exchange 429
 Potential (V_T) 19
 PP56 57
 Prague hypertensive rat 587
 Prefrontal cortex 91
 P-region 661
 Pre-innervation level 137
 Pressure diuresis 587
 Pressure overload 63
 Presynaptic excitability 272
 Primary culture 19, 581
 Primary monolayer 492
 Profilin 341
 Progesterone 97
 Proglucagon 1-69 729
 Proglucagon 33-69 729
 Pronase 254
 Prostaglandins 354
 Protein 332
 Protein clusters 254
 Protein kinase 227, 313
 Protein kinase A 475
 Protein kinase C 123, 313, 505
 Protein kinase-C 113
 Protein phosphatase 484
 Protein phosphorylation 505
 Protein tyrosine kinases 484
 Protein-kinase-A 484, 509, 515
 Proton secretion 721
 Proximal tubular fluid 392
 Proximal tubule 173, 383
 Proximal tubules 383
 PTX 147
 P-type Ca^{2+} channels 179, 592
 Pulmonary 764
 Pulmonary arterial pressure 698
 Pulmonary artery 698
 Pulmonary artery smooth muscle cells 698
 Pulse oximetry 639
 Pulse rate 639
 Pump 11
 Pump contributes 750
 Purinergic receptors 422
 Purinoceptor 77

Purkinje cell 559
 Pyruvate 373

Q

Q-type Ca^{2+} channels 592
 Quadriceps muscle 246, 551
 Quantal output 735
 Quantal theory 339
 Quinine 215
 Quisqualate 261

R

Rabbit 373, 383, 509, 729, 764, 815
 Rabbit kidney 815
 Rabbit serum 413
 Radiotelemetry 525
Rana perezi frog 413
Rana temporaria 234, 332
 Rapid drug application 38
 Rat 1, 25, 38, 63, 77, 84, 117, 173, 188, 203, 212, 215, 242, 285, 292, 398, 422, 457, 475, 568, 599, 609, 642, 661, 669, 694, 756, 795, 801, 809, 822, 852
 Rat cerebellum 559
 Rat gastrocnemius 848
 Rat kidney 151
 Rats 57, 159, 166
 Rb^+ 151
 RCK1 132, 632
 RCK1 channels 632
 RCK4 132
 Red blood cell 104
 Red blood cell velocities 354
 Red blood cells 104
 Redox agents 764
 Redox potential 764
 Regional myocardial blood flow 785
 Regulator 841
 Relaxation 534, 534, 795
 rENaC 756
 Renal arterial blood 392
 Renal arteries 445
 Renal artery clipping 166
 Renal blood flow 57
 Renal cells 11
 Renal cortex 292, 705
 Renal epithelia 123
 Renal epithelial cells 70
 Renal epithelium 227
 Renal haemodynamics 57
 Renal inner medulla 292, 756
 Renal medulla 117, 705, 721
 Renal outer medulla 292
 Renal papilla 392
 Renal potassium channel 151
 Renal proximal tubule S2 segments 373
 Renal reabsorption 123
 Renal vascular resistance 57
 Renal vasculature 445
 Renin system 166
 Repeated injections 525

- Residue H471 661
Resistance (R_T) 19
Respiratory analeptics 97
Resting membrane potential 543
Retinol 669
Reverse transcriptase-polymerase chain reaction 756
Rhod-2 615
Right ventricular hypertrophy 63
(R)-methanandamide 147
RNA accumulation 323
 ^{86}Rb 104
ROMK1 151
Rostral ventrolateral medulla 599
Rp- and Sp-cAMPS 543
RT-PCR 341, 756
RT-PCR techniques 173
Running 678
Running speeds 678
- S**
- Sarco(endoplasmic) reticulum Ca^{2+} -ATPase 209
Sarcoplasmic reticulum 398, 852
Scanning microelectrode 830
SCG 38
Scorpion 742
Secretagogue 77
Secretagogues 25, 609
Secretion 188, 362
Secretory cell 609
Secretory granules 212
Sensory transduction 215
Ser¹⁶ 475
SERCA1 209
SERCA2 209
Sex hormones 97
Shaker 132
Shaker B potassium channels 132
Short circuit current 492
Short-circuit current 11, 227, 234
Short-term memory 91
Signal hemisection 848
Signal transduction 84
Single channel 661
Single channel current 492
Single channel patch-clamp 492
Single fibres 242
Single muscle fibres 332
Single-channel conductance 822
Single-channel recordings 173
Sino-aortic deafferentation 599
Sinoaortic denervation 159
Sinoatrial node myocytes 509
Site-3 sodium channel toxins 742
Site-3 toxins 742
SITS 413
Skeletal muscle 209, 242, 332, 398, 457, 712, 809, 822, 848
Skeletal muscle fibers 209
Skeletal muscle fibres 822
Skinned 242
Skinned fibres 534
Skinned skeletal muscle fibres 551
Slowly inactivating K^+ channels 642
Slow-twitch muscle 209
Slow-twitch muscle fibres 398
Small intestine 495
Smooth muscle 285, 505, 534, 712, 729
Smooth muscle cell 669
SNP 25
Sodium 559
Sodium absorption 492, 581
Sodium conductance 801
Sodium current 559, 772
Sodium currents 215
Sodium dodecyl sulphate 551
Sodium excretion 587
Sodium nitroprusside 698
Sodium pump 559
Sodium retention 587
Sodium transport 11
Soleus muscles 457
Solitary tract 438
Solute composition 117
Sorbitol 117, 300
Sotalol 1
Southern blot 123
Spatial analysis 70
Specific force 246
Spinal cord 848
Spiperone 313
Spontaneous release 852
Staurosporine 104, 313
Step frequency 678
Stoichiometric ratio 383
Stoichiometry 383
Streptozotocine-induced diabetes mellitus 445
Stretch-induced ANP secretion 362
Striatal neurons 642
Strong detergent 429
Subendocardial perfusion 785
Substance P 729
Subtypes of Ca^{2+} channels 179
 α -Subunit 756
 α -, β - and γ -subunits 173
Sub-unit hypothesis 339
Sucrose permeabilities 234
Sulfonylurea compound 203
Sulphonylurea receptors 712
Superior cervical ganglion 38
Surface potential 132
Sweating rate 49
Sympathetic ganglion cells 38
Sympathetic outflow 97
Synapse 735
Synaptic transmission 406
Systemic infusion 57
Systole 639
Systolic blood pressure 705
- T**
- Taenia coli smooth muscles 534
Tail arteries 285
Tamoxifen 113
Taste cells 215
Taste qualities 215
Taste receptor cells 215
TBA 354
TEA 413
Technique 632
Temperatures 341
Temperature-sensitive mutant cells 341
Temporal resolution 615
Tension 669
Terbutaline 492
Tetrabutylammonium 354
Tetraethylammonium 195, 413, 661, 750
Tetrodotoxin 559, 581
Thalamic 144
Thermogenesis 694
Thin descending limb of Henle's loop 721
Thin filament 795
Thr¹⁷ 475
Tibialis anterior 332
Tight epithelia 11
Tight junction 234, 830
Time constants 38
TNF 525
Tolbutamide 203, 362
Tolerance 525
Tonic baroreflex 599
Tractus solitarius 97
Trafficking of membrane proteins 492
Transcellular conductivity 830
Transcription 323
Transcription factors 647
Transcriptional assessment 801
Transcriptional control 756
Transcriptionally regulated mediators 323
Transepithelial calcium transport 300
Transepithelial conductance 234
Transepithelial net fluxes 451
Transepithelial resistance 300
Transepithelial short-circuit current 19
Transepithelial transport 11, 581
Transepithelial voltage 451
Transfectant system 335
Transfection 632, 632
Transformed MDCK cells 70
Transient K^+ current 195
Transient renal ischaemia 292
Transient transfection 632
Transmembrane potential 712
Transmural layers 785
Triamcinolone 173
TriMA 466
Trimeric G protein alpha subunits 323
Trimethylamine 466
 α -Trinositol 445
Triphosphate 147
tsFM3A 341
tsFM101 341
T-tubular lumen 457
TTX 559
Tubular fluid 721
Tubular reabsorption 587
Tubules 392
Tumour necrosis factor α 525
Twitch potentiation 848
Two electrode voltage clamp 499
Two-electrode voltage-clamp 484
Two-electrode voltage-clamp technique 151
Two-intracellular-microelectrode technique 822
Type-I 209
Type-II 209
Tyrosine kinase 484, 509
- U**
- Ultrastructure 669
Unilateral 166
Unitary activity 91
Unmyelinated C fibres 159
Urea 104
Ureteric bud 647
Urethane 438
Urinary acidification 392
Ussing chamber 19
Ussing chamber experiments 77
Ussing chamber studies 173
UTP 77
- V**
- V_b 373, 383
 V_1 receptor 123
 V_2 receptor 123
Vacuolar H^+ -ATPase 495
Vagal control of heart rate 438
Vagotomy 159
Vagus 599
Vasa recta 392
Vasa recta blood 392
Vascular action 285
Vascular smooth muscle 285, 669
Vasoactive intestinal polypeptide 300, 445
Vasodilatory reactivity 445
Vasopressin receptor signalling 123
Vasorelaxation 285
Vasotocin 123
Vastus lateralis muscle 246
V-ATPase 495
Venom 742
Ventilation 97
Ventilatory stimulants 97
Ventricular cells 203, 206
Ventricular myocytes 852
Ventricular receptors 159
Verapamil 581
Video imaging 77
VIP 300, 445

XIV

Voltage clamp technique 272
 Voltage drops 830
 Voltage-activated sodium current 772
 Voltage-clamp 306, 852
 Voltage-dependent calcium channels 406, 559
 Voltage-dependent capacitance 267
 Voltage-dependent conductances 413
 Voltage-gated Ca^{2+} channels 592, 735
 Voltage-gated K^+ channel subunits 206
 Voltage-operated Ca^{2+} channel 346

Voltage-operated calcium channel 502
 Voltage-sensitive K^+ (Kv) currents 764

W

W7 313
 Wall shear stress 354
 Water channels 841
 Water conductance 841
 Water transport 841
 WAY-123,398 1
 Western blot 117
 Western blotting 475
 Western-blot technique 292

White adipocytes 422, 422
 White fat 422
 Whole cell 313
 Whole-cell 195, 206, 285, 346, 422, 764
 Whole-cell configuration 543, 642
 Whole-cell currents 38, 335
 Whole-cell K^+ 515
 Whole-cell patch clamp 502
 Whole-cell patch-clamp 772, 779
 Whole-cell recordings 188, 750
 Wobble mutation 341
 wt-CFTR 779
 wtCFTR 841

X

Xenopus laevis oocytes 261, 306
Xenopus oocyte 661
Xenopus oocytes 132, 151, 841
 x-ray contrast media 705

Z

Zonal changes 292
 Zucker lean 422
 Zucker obese 422
 Zucker rats 694